DOVETAIL hull-mounted ADCP current data

The accompanying files contain current data obtained using the hull-mounted 150-kHz RDI ADCP system aboard the research vessel *Palmer* during the austral winter 1997 DOVETAIL cruise. These data have been corrected for vessel motion using the CODAS set of routines that were installed aboard the Palmer system as of the time of the 1997 cruise, and have been broken down into east-west (u) and north-south (v) components in an earth-fixed coordinate system. The data are written as continuous time series that extend throughout the duration of the cruise and therefore contain both full and empty spaces depending upon whether or not valid data were acquired at a given time. Invalid datapoints are indicated in each file by the term "NaN", consistent with the Matlab$^{©}$ files from which the data were extracted.

The separate files contain different portions of the overall dataset as follows:

u – east-west current data with speed in m/s. These data are in the form of a two-dimensional matrix with time increasing to the right and depth increasing downward, and so present a time series of vertical profiles in ***u***. Each column is a vertical current profile at a fixed time, with the time given by the ***time*** file described below.

v – north-south current data in the same format as described for ***u***.

time – time as decimal day, where 1 January is day "0". In otherwords, noon on 1 January has a decimal time of 0.500. These data are in the form of a row vector with time increasing toward the right. The values give the times when ***u*** and ***v*** in the corresponding columns were recorded.

Lat – latitude from 0 to ±90 degrees, where a negative value indicates southern hemisphere. These data are in the form of a row vector, where the points are arranged in order of increasing time to the right. Each point gives the latitude at which ***u*** and ***v*** in the corresponding columns were recorded.

Lon – longitude from 0-360 degrees. This file is structured the same as for the ***lat*** file.

Depth – depths in meters of current speed values. These data are in the form of a column vector with depth increasing downward. Each point gives the depth represented by the corresponding values of ***u*** and ***v***. Current speeds were measured using vertical bin sizes of 8 meters, and the depths given are for the midpoint of each 8-meter bin.

To provide a simple example for use of these data, plotting either the ***u*** or ***v*** matrix using ***time*** to scale the abscissa and ***depth*** to scale the ordinate will return a time series plot of vertical profiles of ***u*** or ***v***.

Queries concerning these data may be directed to:

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